

Data_Management_Principles

Effective realization of this vision requires all NOAA data management systems to consistently follow a set of standard data management principles. Recommended principles are described below, including how they will be applied within NOAA.

Commitment and leadership: *Information is a strategic asset and information management must be a key component of every environmental data and information program. This ethic must be reflected in a corporate culture, embraced throughout the organization, that recognizes data as a corporate resource.*

NOAA management will be visible advocates for development and implementation of NOAA-wide information management investments, policies, and procedures. All NOAA employees and contractors are stakeholders in the integrated information management Vision, and will strive to help the organization develop and implement policies and practices for achieving it. NOAA will establish mechanisms for ongoing communication, coordination and training to ensure that all its data producers have the knowledge and resources needed to implement NOAA data management policies.

Stewardship: *People who take observations or produce data and information are stewards of these data, not owners. These data must be collected, produced, documented, transmitted and maintained with the accuracy, timeliness and reliability needed to meet the needs of all users.*

NOAA will strive to meet the requirements of all users in planning, developing and implementing its data management systems. NOAA will endeavor to make the most of every observation it takes and data product it produces.

Long-term preservation: *Irreplaceable observations, data products of lasting value, and associated metadata must be preserved. This information must be well-documented and maintained so that it is available to and independently understandable by users, now and in the future.*

NOAA will ensure all data, products of enduring value, and associated metadata are well documented and maintained in suitable archives. NOAA, in concert with its users and partners, will establish criteria and procedures to guide the acquisition, documentation, retention and purging of data to ensure important and irreplaceable information is maintained for posterity.

Requirements-driven: *It is essential that providers and users of data and products play an active role in defining the constantly evolving requirements that drive the development and evolution of data management systems.*

NOAA understands that it has unrealized potential for the use of its data and information. NOAA will work with its growing and increasingly diverse set of data providers and users to determine present and future environmental requirements and applications and to continuously improve its relationship with both groups. NOAA will establish a vigorous outreach process to involve both groups and to help to identify where improvements are needed. NOAA will foster development of a value-added ?market?, in which others may readily produce information products tailored to particular groups.

Discovery and access: *Freedom of access, mechanisms that facilitate discovery, timely delivery, use and interpretation of data and products (directories, browse capabilities, metadata, mapping, visualization, etc.) are essential, recognizing relevant policies and regulations.*

NOAA will develop information systems and tools to facilitate discovery, use, and interpretation of data and products by its users. It will work with its partners in government, academia and industry to make sure its data are available and accessible to all, while respecting any data confidentiality agreements. NOAA will ensure timely access to data and products necessary to support operational and research requirements.

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Standards and practices: *Appropriate use of information technologies, widely shared standards, and integration approaches are vital to facilitate collection, management, discovery, dissemination, and access services for environmental data and products. This will ensure interoperability among providers, systems, and users. Effective application of standards and best practices contribute to the development of systems that are interoperable, efficient, reliable, scalable, and adaptable.*

NOAA subscribes to the value of, and need for, corporate standards, but also recognizes the need for flexibility so that individual creativity in getting jobs done is enhanced by the use of standards. NOAA will define a process for standards adoption that is open and inclusive, and fosters buy-in by all stakeholders. Existing information technology and scientific standards will be favored. NOAA data and information will be consistent to the extent that implementation at each level, and across units, is compatible and mutually supportive.

Quality: *Data, products and information should be of quality sufficient to meet the requirements of society and to support sound decision making.*

NOAA will strive, as a commonly understood, accepted, and supported goal, to bring quality information to people and processes inside and outside of NOAA. NOAA, together with partner agencies and institutions will strive to ensure its environmental information is of the highest possible quality within reasonable cost. The quality of NOAA data and products will be evaluated, fully characterized, and documented.

Cooperation and coordination: *Environmental and scientific data management is a task of global scope ? a whole that should be much bigger than the sum of its parts. It is only by participating in a global community of integrated data management that each organization can realize the potential of its data to the betterment of humankind.*

NOAA will actively participate and commit to utilizing data management solutions that are compatible and interoperable with data systems utilized by international partners; by other US Agencies; by the private sector data suppliers and users; by the research community; and by end users at all levels of US society.

Security: *Data, information, and products must be preserved and protected from unintended or malicious modification, unauthorized use, or inadvertent disclosure.*

NOAA will ensure that its data management systems comply with all applicable federal security policies. It will ensure the integrity of its data stored on servers or transmitted across networks and will protect data, networks and services from unauthorized use or attack.

Global Earth Observation Integrated Data Environment CONOPS